AMENDMENT TO CLAIMS

1. (Previously presented) A method of reducing chromatic bleeding artifacts in a digital image, the method comprising reducing chrominance values of at least some pixels in the digital image, the chrominance value of a pixel reduced according to its chromatic dynamic range.

2. (Original) The method of claim 1, wherein the chromatic dynamic range for each pixel is a function of minimum and maximum chroma values of a local pixel neighborhood, whereby the chromatic dynamic range is determined on a pixel-by-pixel basis.

3. (Original) The method of claim 1, wherein the chrominance values of a pixel are scaled by the ratio C'/C if the original chroma value (C) of the pixel is modified, where C' is the new chroma value.

4. (Previously presented) The method of claim 1, wherein a chroma value of a pixel is modified to no more than a chromatic modulus (C_0) derived from the local neighborhood.

5. (Previously presented) A method of reducing chromatic bleeding artifacts in a digital image, the method comprising modifying chrominance values of at least some pixels in the digital image, the pixels being modified according to their luminance values and chromatic dynamic ranges by $C' = C - f(Y,D)\cdot(C - C_0)$, where C' is the new chroma value of the pixel, C is the original chroma value of the pixel, Y is the luminance of the pixel, D is the chromatic dynamic range, C_0 is a chromatic modulus having a value between zero and C_m, C_m is the minimum chroma of the local neighborhood for the pixel, and $f(Y,D)$ is a parametric expression that determines the amount of relative chroma reduction.

6. (Original) The method of claim 5, wherein $f(Y,D)$ complies with $f(Y,D) \rightarrow 1$ for $Y \rightarrow 1$; and $f(Y,D) \rightarrow 0$ for $D \rightarrow 0$.

7. (Original) The method of claim 6, wherein $f(Y,D)$ also complies with $f(Y,D) \rightarrow 0$ for $D \rightarrow 0$ and $Y \rightarrow 1$.

8. (Original) The method of claim 5, wherein $C_0 = \max[C_m - D, 0]$).

9. (Original) The method of claim 5, wherein the modulus $C_0 = C_m$.

10. (Original) The method of claim 5, wherein $C_0=0$.

11. (Original) The method of claim 5, wherein $f(Y,D) = \max\left[1-\alpha(\frac{1-Y}{D}),0\right]$, where α is a positive term.

12. (Original) The method of claim 11, wherein $C'=C$ if $Y<(1-D/\alpha)$.

13. (Previously presented) A method of reducing chromatic bleeding artifacts in a digital image, the method comprising modifying chrominance values of at least some pixels in the digital image, the pixels being modified according to their chromatic dynamic ranges and luminance values, wherein each pixel of interest is mapped by:

determining a chromatic dynamic range;

leaving the pixel unmodified if the chromatic dynamic range is less than a predetermined threshold; and

computing a parametric function if the chromatic dynamic range is greater than the threshold and using the parametric function to modify the chrominance

value of the pixel, the parametric function being a function of the luminance and local chromatic dynamic range of the pixel.

14. (Original) The method of claim 1, wherein the digital image is reconstructed from subsampled chrominance values; and wherein the chromatic dynamic range is determined from subsampled chrominance values.

15. (Previously presented) A method of reconstructing a digital image from a luminance channel and subsampled chrominance channels, the method comprising:

interpolating the chrominance channels; and

reducing chromatic bleeding artifacts from the interpolated chrominance channels by selectively reducing chrominance values of at least some pixels in the digital image, the pixels being selectively reduced according to chromatic dynamic ranges.

16. (Previously presented) Apparatus for reducing chromatic bleeding artifacts in a digital image, the apparatus comprising a processor for selectively reducing chrominance values of pixels in the digital image, the pixels being selectively reduced according to chromatic dynamic ranges.

17. (Original) The apparatus of claim 16, wherein the chromatic dynamic range for each pixel is a function of minimum and maximum chroma values of a local pixel neighborhood; and wherein the processor determines local chromatic dynamic ranges on a pixel-by-pixel basis.

18. (Original) The apparatus of claim 17, wherein the processor scales the chrominance values of a pixel by the ratio C'/C if the original chroma value (C) of the pixel is modified, where C' is the new chroma value.

19. (Previously presented) The apparatus of claim 17, wherein the processor modifies a chroma value of a pixel to no more than a chromatic modulus (C_0) derived from the local neighborhood.

20. (Previously presented) Apparatus for reducing chromatic bleeding artifacts in a digital image, the apparatus comprising a processor for modifying chrominance values of at least some pixels in the digital image, the pixels being modified by $C' = C - f(Y,D) \cdot (C - C_0)$, where C' is the new chroma value of the pixel, C is the unmodified chroma value of the pixel, Y is the luminance of the pixel, D is the local chromatic dynamic range, C_0 is a chromatic modulus having a value between zero and C_m, C_m is the minimum chroma of the local neighborhood for the pixel, and $f(Y,D)$ is a parametric expression that determines the amount of relative chroma reduction and that ranges between 0 and 1.

21. (Original) The apparatus of claim 20, wherein $f(Y,D)$ complies with $f(Y,D) \rightarrow 1$ for $Y \rightarrow 1$; and $f(Y,D) \rightarrow 0$ for $D \rightarrow 0$.

22. (Original) The apparatus of claim 21, wherein $f(Y,D)$ also complies with $f(Y,D) \rightarrow 0$ for $D \rightarrow 0$ and $Y \rightarrow 1$.

23. (Original) The apparatus of claim 20, wherein $C_0 = \max[C_m - D, 0]$).

24. (Original) The apparatus of claim 20, wherein the modulus $C_0 = C_m$.

25. (Original) The apparatus of claim 20, wherein $C_0 = 0$.

26. (Original) The apparatus of claim 20, wherein $f(Y,D) = \max\left[1 - \alpha(\frac{1-Y}{D}), 0\right]$, where α is a positive term.

27. (Original) The apparatus of claim 26, wherein $C'=C$ if $Y<(1-D/\alpha)$.

28. (Original) The apparatus of claim 16, wherein the processor reconstructs the digital image from subsampled chrominance values; and wherein the processor determines the chromatic dynamic ranges from the subsampled chrominance values.

29. (Previously presented) An article for a processor, the article comprising:

computer memory; and

a program stored in the memory, the program, when executed, causing the processor to reduce chromatic bleeding artifacts in a digital image by selectively reducing chrominance values of pixels in the digital image, the chrominance value of a pixel being selectively reduced according to chromatic differences in a local neighborhood of the pixel.

30. (Previously presented) The method of claim 1, further comprising using a luminance value of a pixel being modified to determine an amount of chromatic reduction.

31. (Previously presented) The method of claim 30, wherein a chroma value of a pixel is modified to no more than a chromatic modulus (C_0) if the pixel has a high luminance, and wherein the chroma value of a pixel is not modified if the pixel has a small dynamic range.

32. (Previously presented) The apparatus of claim 16, further comprising using a luminance value of a pixel being modified to determine an amount of chromatic reduction.

33. (Previously presented) The apparatus of claim 16, wherein a chroma value of a pixel is modified to no more than a chromatic modulus (C_0) if the pixel has a high luminance, and wherein the chroma value of a pixel is not modified if the pixel has a small dynamic range.

34. (Previously presented) The article of claim 29, wherein the program further instructs the processor to use a luminance value of a pixel being modified to modify an amount of chromatic reduction.

35. (Previously presented) The article of claim 34, wherein the program instructs the processor to modify a chrominance value of a pixel to no more than a chromatic modulus, the chromatic modulus derived from the local neighborhood.

36. (Previously presented) An article for a processor, the article comprising memory encoded with instructions for instructing the processor to reduce chromatic bleeding artifacts in a digital image by modifying chrominance values of at least some pixels in the digital image, the pixels being modified by $C' = C - f(Y,D)\cdot(C - C_0)$, where C' is the new chroma value of the pixel, C is the unmodified chroma value of the pixel, Y is the luminance of the pixel, D is the local chromatic dynamic range, C_0 is a chromatic modulus having a value between zero and C_m, C_m is the minimum chroma of the local neighborhood for the pixel, and $f(Y,D)$ is a parametric expression that determines the amount of relative chroma reduction and that ranges between 0 and 1.

37. (Previously presented) The article of claim 34, wherein $f(Y,D)$ complies with $f(Y,D) \to 1$ for $Y \to 1$; and $f(Y,D) \to 0$ for $D \to 0$.

38. (Previously presented) The article of claim 35, wherein $f(Y,D)$ also complies with $f(Y,D) \to 0$ for $D \to 0$ and $Y \to 1$.

39. (Previously presented) The article of claim 34, wherein $C_0 = \max[C_m - D, 0])$.

40. (Previously presented) The article of claim 34, wherein the modulus $C_0=C_m$.

41. (Previously presented) The article of claim 34, wherein $C_0=0$.

42. (Previously presented) The article of claim 34, wherein $f(Y,D) = \max\left[1-\alpha(\frac{1-Y}{D}),0\right]$, where α is a positive term.

43. (Previously presented) The article of claim 40, wherein $C'=C$ if $Y<(1-D/\alpha)$..